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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,297	01/22/2004	Ben-Chang Sun	MR2707-59	3082
4586	7590	09/07/2006	EXAMINER	
ROSENBERG, KLEIN & LEE 3458 ELLICOTT CENTER DRIVE-SUITE 101 ELLICOTT CITY, MD 21043			YACOB, SISAY	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 09/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	10/761,297		SUN, BEN-CHANG	
	Examiner		Art Unit	
	Sisay Yacob		2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1 The application of Sun for "User programmable input apparatus with a keyboard" filed on January 22, 2004 has been examined.

Claims 1-26 are pending.

Claim Rejections - 35 USC § 102

2 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3 Claim 1, 2, 4, 5, 7-9, 12-17 and 23-26 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent of Shaver et al., (4,964,075).

4 As to claim 1, Shaver et al., discloses a user programmable input apparatus with a keyboard comprising a plurality of keys on the keyboard for input operations (Col. 6, lines 16-34), a microprocessor for receiving an input from the plurality of keys (Col. 10, lines 27-28), a nonvolatile memory programmable by operating the plurality of keys (Col. 10, lines 39-68; Col. 11, lines 1-3), and a transmission arrangement connected to

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the microprocessor for outputting data to outside of the input apparatus (Col. 11, lines 3-8).

5 As to claim 2, the input apparatus of claim 1, further, Shaver et al., discloses wherein the microprocessor and nonvolatile memory are integrated in a chip (Col. 10, lines 44-46).

6 As to claim 4, the input apparatus of claim 1, further, Shaver et al., discloses wherein the nonvolatile memory is programmed with a user programmable hot key (Col. 8, lines 27-28; Item 25 of figures 2 and 3).

7 As to claim 5, the input apparatus of claim 1, further, Shaver et al., discloses wherein the nonvolatile memory is programmed with a user programmable data (Col. 6, lines 24-34).

8 As to claim 7, the input apparatus of claim 4, further, Shaver et al., discloses wherein the plurality of keys includes a special key to program the hot key (Col. 8, lines 41-43; Item 27 of figures 2 and 3).

9 As to claim 8, the input apparatus of claim 5, further, Shaver et al., discloses wherein the plurality of keys includes a special key to program the data (Col. 8, lines 27-28; Item 25 of figures 2 and 3).

10 As to claim 9, the input apparatus of claim 1, further, Shaver et al., discloses wherein the plurality of keys includes a special key to initialize a programming procedure of the nonvolatile memory (Col. 8, lines 41-43; Item 27 of figures 2 and 3).

11 As to claim 12, the input apparatus of claim 1, further, Shaver et al., discloses wherein the plurality of keys includes a special key to simulate a computer peripheral (Col. 7, lines 34-38; Col. 8, lines 61-64).

12 As to claim 13, the input apparatus of claim 1, further, Shaver et al., discloses wherein the plurality of keys includes a special key to simulate one of the plurality of keys (Col. 6, lines 61-68; Col. 7, lines 1-6).

13 As to claim 14, the input apparatus of claim 13, further, Shaver et al., discloses wherein the special control key has a predetermined report rate different from that of the simulated key (Col. 11, lines 41-68; Col. 12, lines 1-16).

14 As to claim 15, the input apparatus of claim 1, further, Shaver et al., discloses wherein the plurality of keys are operated to change a key mapping by programming the nonvolatile memory (Col. 8, lines 44-48; Col. 9, lines 5-45).

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15 As to claim 16, the input apparatus of claim 1, further, Shaver et al., discloses wherein the nonvolatile memory is programmed with a command thereto by operating the plurality of keys (Col. 8, lines 48-57).

16 As to claim 17, the input apparatus of claim 1, further, Shaver et al., discloses wherein the transmission arrangement includes a wired transmission protocol interface (Col. 1, lines 53-63; Col. 7, lines 17-23).

17 As to claim 23, the input apparatus of claim 1, further, Shaver et al., discloses the input apparatus further comprising an application software program executing outside the input apparatus to communicate with the input apparatus (Col. lines 8, lines 48-60).

18 As to claim 24, the input apparatus of claim 23, further, Shaver et al., discloses wherein the application software program is used to program the nonvolatile memory (Col. 8, lines 41-67).

19 As to claim 25, the input apparatus of claim 23, further, Shaver et al., discloses wherein the application software program is used to perform a function programmed in the nonvolatile memory (Col. 8, lines 41-67; Col. 9, lines 1-7).

20 As to claim 26, Shaver et al., discloses a method for operating an input apparatus with a keyboard (col. 6, lines 16-34), the input apparatus having a

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microprocessor (Col. 10, lines 27-28), a nonvolatile memory (Col. 6, lines 24-34; Col. 10, lines 39-68; Col. 11, lines 1-3) and a transmission arrangement (Col. 11, lines 3-8), the keyboard having at least one special key (Col. 8, lines 39-43), the method comprising the steps of detecting a trigger signal of the keyboard (Col. 10, lines 58-64), storing a first data into the nonvolatile memory when the trigger signal is a programming signal, transmitting a normal data corresponding to the trigger signal to outside of the input apparatus by the transmission arrangement when the trigger signal is a normal keying signal (Col. 8, lines 39-67), and reading a second data corresponding to a programmed key from the nonvolatile memory and/or executing a function corresponding to the second data when the trigger signal matches the programmed key (Col. 8, lines 67-68; Col. 9, lines 1-4).

Rejections - 35 USC § 103

21 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22 The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

23 Claims 3, 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaver et al., in view of US Patent of Kuehneman et al., (4,688,020).

24 As to claim 3, the input apparatus of claim 1, however, Shaver et al., does not expressly disclose wherein the nonvolatile memory is programmed with a user programmable password. In same field of endeavor, Kuehneman et al., discloses the nonvolatile memory is programmed with a password to protect a key table for reconfigurable keyboard (Col. 13, lines 7-15; Col. 14, lines 58-68; Col. 15, lines 1-9; See figure 10).

It would have been obvious, to one skilled in the art, at the time of the invention, to modify the user programmable input apparatus with a keyboard of Shaver et al., by incorporating the nonvolatile memory is programmed with a password, as disclosed by Kuehneman et al., in order to have a user programmable input apparatus with a keyboard, wherein the nonvolatile memory is programmed with a user programmable password, because Kuehneman et al., discloses a nonvolatile memory is programmed with a password to protect a key table for reconfigurable keyboard and one skilled in the art realizes incorporating a user programmable password will ensure the program for the input device would not be changed by accident or by unauthorized user.

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25 As to claim 6, the input apparatus of claim 3, however, Shaver et al., does not expressly disclose wherein the plurality of keys includes a special key to program the password. Kuehneman et al., discloses a special key that is a password key (Col. 10, lines 18-33).

It would have been obvious, to one skilled in the art, at the time of the invention, to modify the user programmable input apparatus with a keyboard of Shaver et al., by incorporating the password key, as disclosed by Kuehneman et al., in order to have a user programmable input apparatus with a keyboard, wherein the plurality of keys includes a special key to program the password, because Shaver et al., discloses a nonvolatile memory is programmed for use with an input device of special keys that may be labeled by the user (Col. 8, lines 39-67) and Kuehneman et al., discloses a nonvolatile memory is programmed with a password to protect a key table for reconfigurable keyboard and a password key. One skilled in the art realizes having a dedicated special key to program the password to a nonvolatile memory would be desirable to change the user password without changing the program for the rest of programmed keys.

26 As to claim 22, the input apparatus of claim 1, further, Kuehneman et al., discloses the input apparatus further comprising a display connected to the microprocessor to display a content stored in the nonvolatile memory (Col. 14, lines 58-68; Col. 15, lines 1-9).

27 Claims 10, 11 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaver et al., in view of US Publication of Criscione (20040041792).

28 As to claims 10 and 11, the input apparatus of claim 1, however, Shaver et al., does not expressly disclose wherein the plurality of keys includes a special key to simulate a mouse and a joystick. In the similar field of endeavor, Criscione discloses a plurality of keys that include special keys to simulate a mouse and a joystick (Page 1, Par. 0002-0003; Page 2, Par. 0023).

It would have been obvious, to one skilled in the art, at the time of the invention, to modify the user programmable input apparatus with a keyboard of Shaver et al., by incorporating the plurality of keys includes a special key to simulate a mouse and a joystick, as disclosed by Criscione, in order to have a user programmable input apparatus with a keyboard, wherein the plurality of keys includes a special key to simulate a mouse and a joystick, because Shaver et al., discloses a nonvolatile memory is programmed for use with an input device of special keys that may replace a regular keyboard by simulating the keyboard keys and control functions and Criscione discloses plurality of keys includes a special key to simulate a mouse and a joystick. One skilled in the art realizes having a special keys incorporated in the programmable input device would minimize the number of hardware devices.

29 As to claim 18, the input apparatus of claim 17, further, Criscione discloses wherein the wired transmission protocol interface includes USB or PS2 (See figures 3A and B).

30 As to claim 19, the input apparatus of claim 1, further, Criscione discloses wherein the transmission apparatus includes a wireless transmission protocol interface (Page 6, Par. 0078).

31 As to claim 20, the input apparatus of claim 19, further, Criscione discloses wherein the wireless transmission protocol interface includes IR or RF (Page 6, Par. 0078).

32 As to claim 21, the input apparatus of claim 19, however, the combination of Shaver et al., and Criscione does not expressly disclose wherein the wireless transmission protocol interface includes IEEE 802.11 or Bluetooth. But, Criscione discloses the input apparatus with a wireless transmission protocol interface (Page 6, Par. 0078).

It would have been obvious, to one skilled in the art, at the time of the invention, to modify the combination of Shaver et al., and Criscione, by incorporating a IEEE 802.11 or Bluetooth wireless capabilities, in order to have a user programmable input apparatus with a keyboard, wherein the wireless transmission protocol interface includes IEEE 802.11 or Bluetooth, because Criscione discloses a wireless

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transmission protocol interface includes IR and one skilled in the art realizes the a wireless transmission protocol interface may be any one of a wireless transmission protocol interface that are well known in the art and widely employed wireless transmission protocol interfaces, which include IR, RF, IEEE 802.11 or Bluetooth.

Conclusion

33 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following cited arts are further to show the state of art related to user programmable input apparatus with a keyboard.

In the US Patent of (6,650,254) Rix discloses a Computer input device with individually positionable and programmable switches.

In the US Patent of (6,340,116) Cecil et al., discloses a proximity card with incorporated pin code protection.

In the US Patent of (6,018,335) Onley et al., discloses a programmable keyboard and method therefor.

In the US Patent of (5,920,308) Kim discloses a Keyboard with a wireless remote control receiver and a method of redefining a key function for remote control.

In the US Patent of (5,896,125) Niedzwiecki discloses a configurable keyboard to personal computer video game controller adapter.

In the US Patent of (4,823,311) Hunter et al., discloses a calculator keyboard with user definable function keys and with programmably alterable interactive labels for certain function keys.

34 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

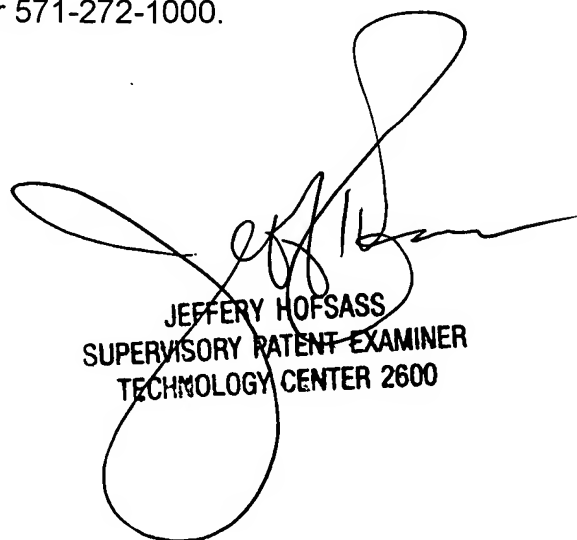
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sisay Yacob

8/30/2006

S-Y.



JEFFERY HOFSSASS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600